

## File Names

File #	Original File Name
1	PAC2001_SAT_AIR-FILTER_DAILY_47MM-FP_20010101D365_V1.csv

# Dataset Key Phrases

Data Exchange Standard Version	Principal Investigator Name--last first	Principal Investigator Affiliation	File Contents Description--short long	Sampling Interval As Reported in Main Table
NARSTO 2001/10/31 (2.213)	MacTavish ; Dave	Meteorological Service of Canada, Environment Canada	AIR-FILTER_MEAS ; Daily filter pack sampling	24 hour

## Dataset Key Phrases

Sampling Frequency Of Data in Main Table	Quality Control Level	Organization Acronym	Organization Name	Data Usage Acknowledgement	Study Or Network Acronym
Every day	1	ENVCAN	Environment Canada	Meteorological Service of Canada, Environment Canada; 4905 Dufferin St.; Toronto, Ont., M3H 5T4; Canada	Canadian Air and Precipitation Monitoring Network

## Dataset Key Phrases

Study Or Network Name	Country Code	State Or Province Code	Principal Investigator Contact Information	Co-investigator Name--last first	Co-investigator Affiliation
CAPMoN	CA (CANADA)	ON	Dave MacTavish; MSC Environment Canada; 4905 Dufferin St.; Toronto, Ont, M3H 5T4;Canada; 416-739-4450		

# Dataset Key Phrases

Name And Affiliation Of Person Who Generated This File	Date Of Last Modification To Data In Main Table	Name And Version Of Software Used To Create This File
Greg Skelton, SKELTON TECHNICAL SERVICES INC	2003/09/23	MS Excel 2000

## Dataset Key Phrases

Companion File Name format And Version	Date This File Generated archive Version Number	Table Explanation Of Zero Or Negative Values	Table Explanation Of Reported Detection Limit Values
None ; 0	2004/01/13 ; 1	No zero or negative values appear in the data in this file	The detection limit is a 'method detection limit' calculated quarterly, equal to 3 standard deviations of the 13 dynamic field blank mass loadings collected during the calendar quarter and divided by the daily flow rate. The daily concentrations reported in the data set have been blank-corrected by subtracting the average loading of the 13 dynamic field blanks from the daily concentrations divided by the daily flow volume. Blank-corrected daily concentrations that fell below the 3 standard deviations of the nominal blank concentrations are reported as below detection limit.

# Dataset Key Phrases

Table Explanation Of Reported Uncertainty	Table User Note	Table User Note2	Table User Note3	Table User Note4	Table Name	Table Focus
					AIR-FILTER_MEAS	Surface--fixed

## Site Information

Site ID	Name	State Province code	Latitude: decimal degree	Longitude: decimal degree	Sampling height above ground (m)	Ground elevation above sea level (m)	Site land use
CAPMCABC1SAT	Saturna	BC	48.7833	-123.1333	10	178	Forest

Site ID	Site location setting	Measurement start date	Measurement end date	Co-incident measurements	Study site ID	Lat lon accuracy
CAPMCABC1SAT	Rural	2001/06/01	9999/12/31			.

## NARSTO Standard Flags

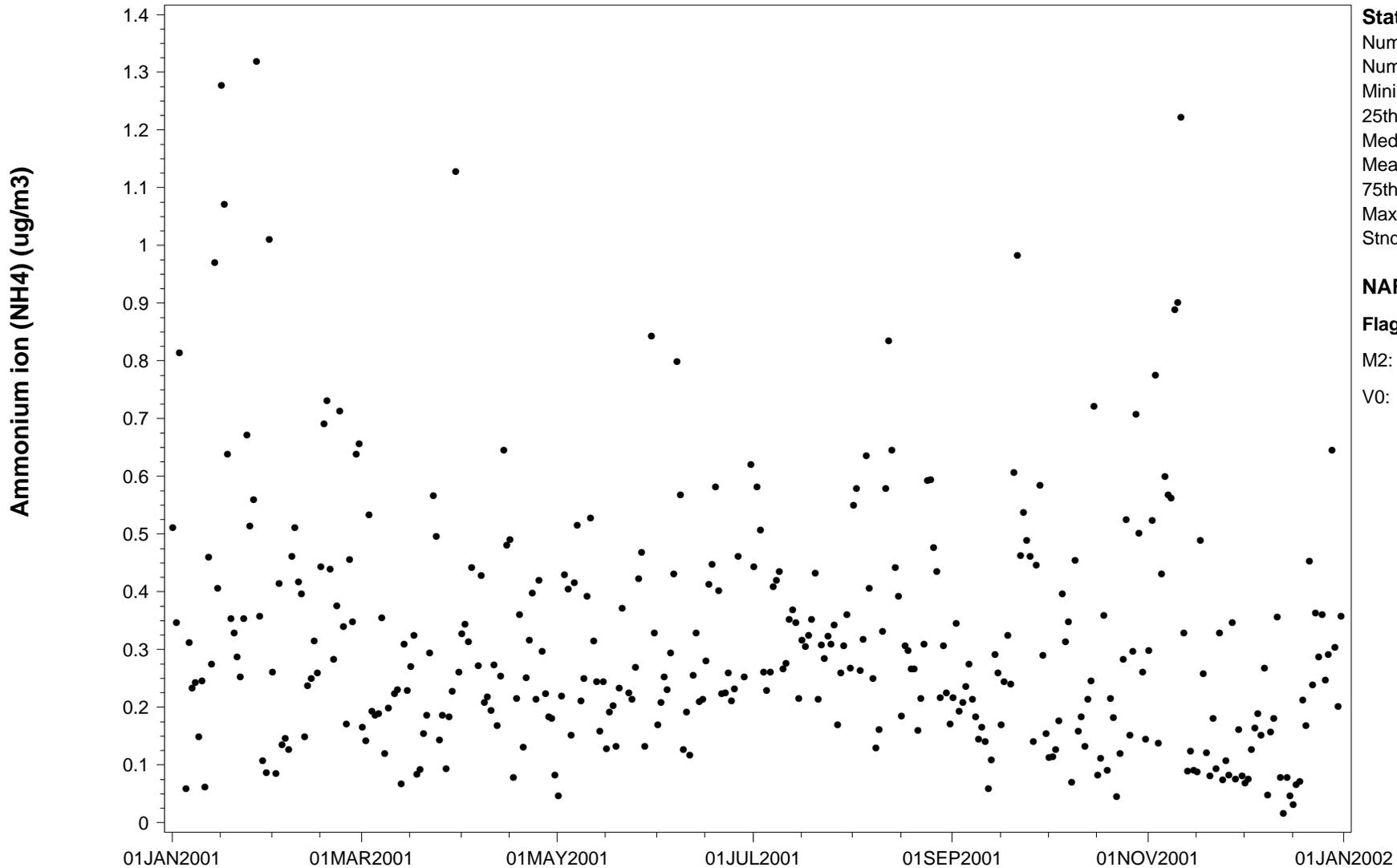
Flag: NARSTO	Description
M1	Missing value because no value is available
M2	Missing value because invalidated by data originator
V0	Valid value
V2	Valid estimated value
V3	Valid interpolated value
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination (e.g., pollution source, laboratory contamination source)
V6	Valid value but qualified due to non-standard sampling conditions (e.g., instrument malfunction, sample handling)
V7	Valid value but set equal to the detection limit (DL) because the measured value was below the DL

NATchem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Ammonium ion (NH4)** Common Name: **NH4+** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day**  
 CAS ID: **C14798-03-9** Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**

Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.016**  
 25th Percentile: **0.18**  
 Median: **0.266**  
 Mean: **0.318**  
 75th Percentile: **0.414**  
 Maximum: **1.319**  
 Std Dev.: **0.211**

**NARSTO Flags**

**Flag Symbol Count**

M2: **7**  
 V0: ● **358**

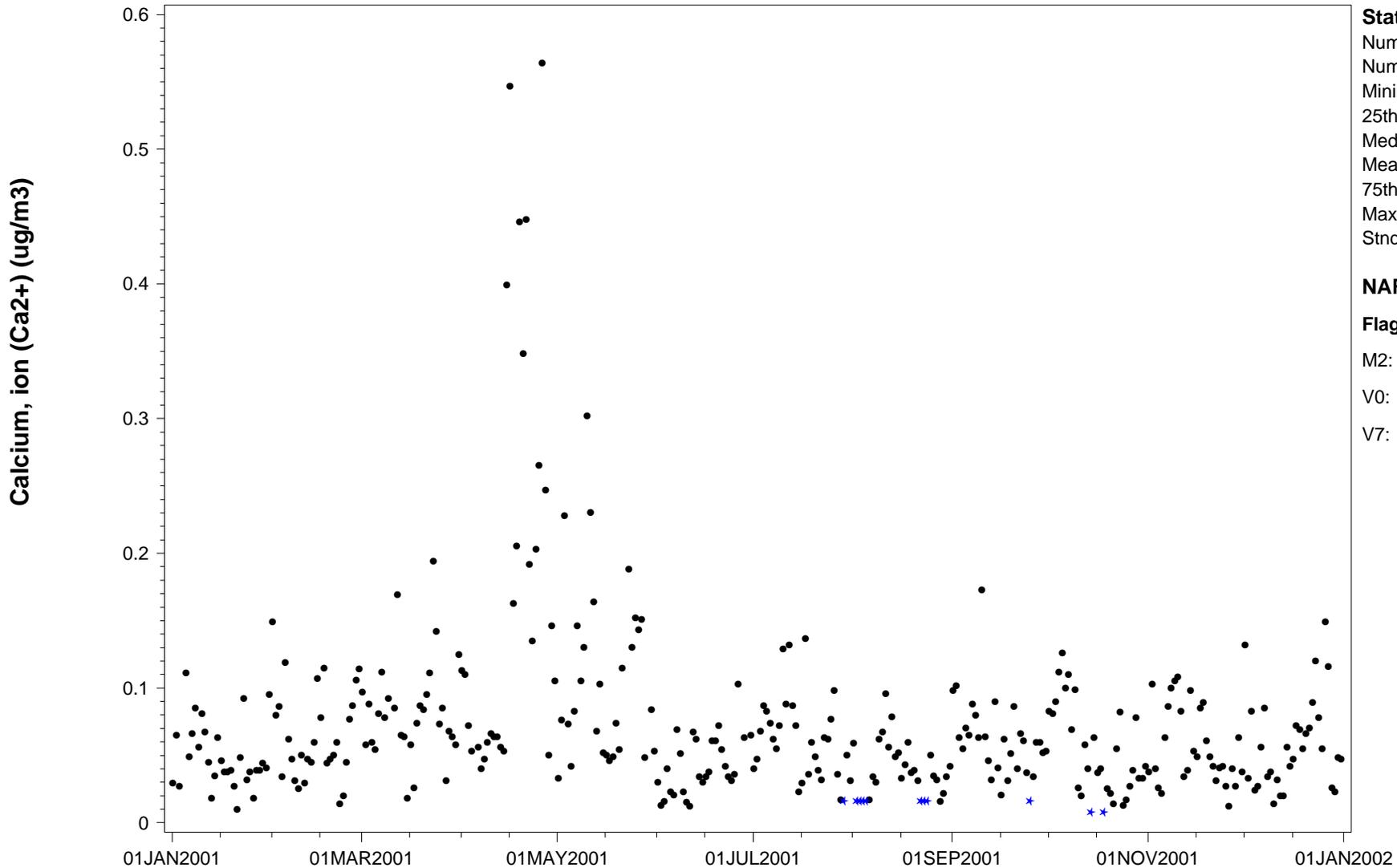
Time Zone: PST

NATchem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Calcium, ion (Ca2+)** Common Name: **Ca++** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day**  
 CAS ID: **C14127-61-8** Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **AAS** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**  
 Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.008**  
 25th Percentile: **0.036**  
 Median: **0.056**  
 Mean: **0.072**  
 75th Percentile: **0.085**  
 Maximum: **0.564**  
 Stnd Dev.: **0.067**

**NARSTO Flags**  
**Flag Symbol Count**  
 M2: **7**  
 V0: ● **347**  
 V7: ★ **11**

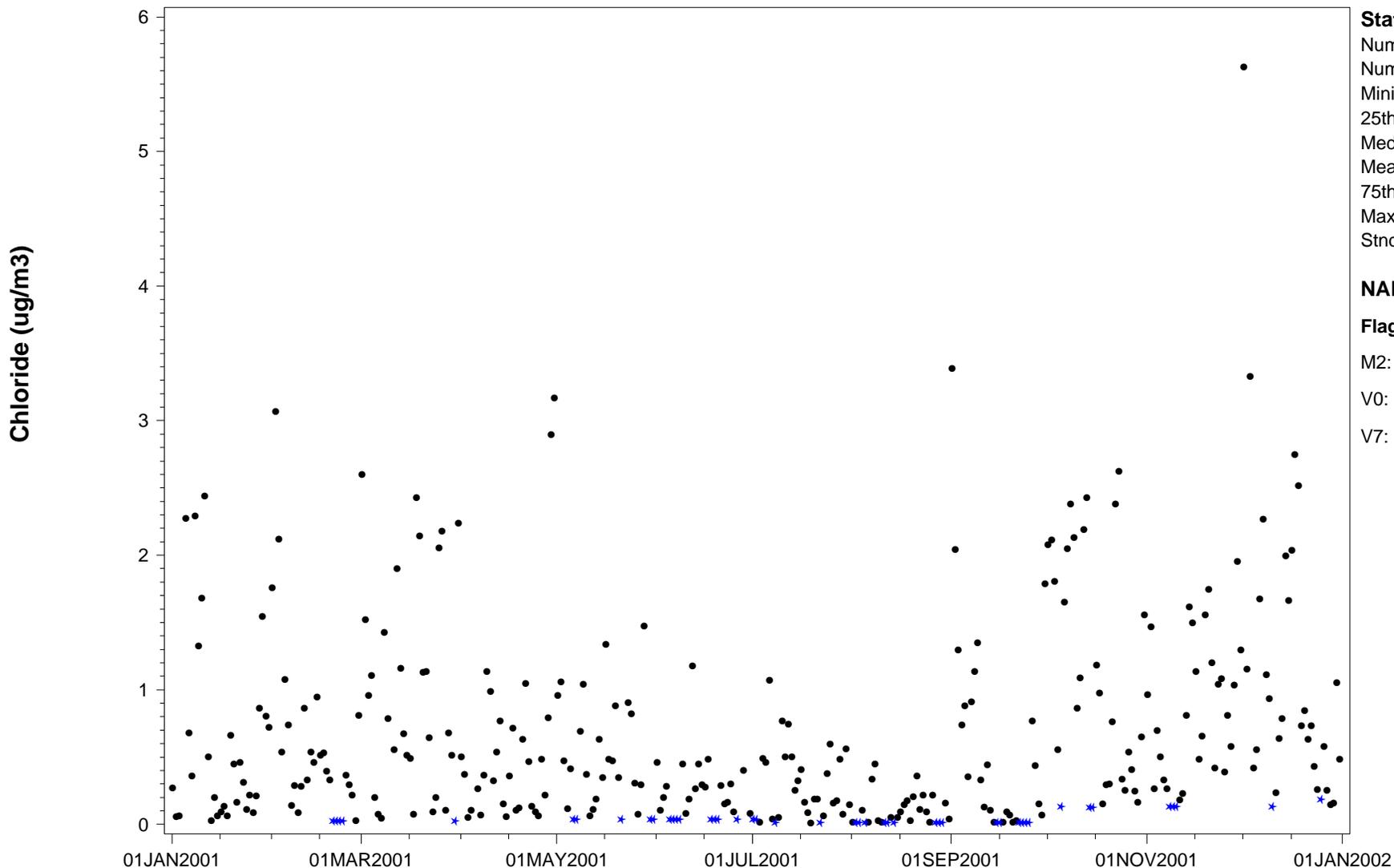
Time Zone: PST

### NATChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Chloride** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day** CAS ID: **C16887-00-6**  
 Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



#### Statistics

Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.012**  
 25th Percentile: **0.106**  
 Median: **0.363**  
 Mean: **0.635**  
 75th Percentile: **0.861**  
 Maximum: **5.628**  
 Stnd Dev.: **0.753**

#### NARSTO Flags

##### Flag Symbol Count

M2:	<b>7</b>
V0:	<b>● 313</b>
V7:	<b>* 45</b>

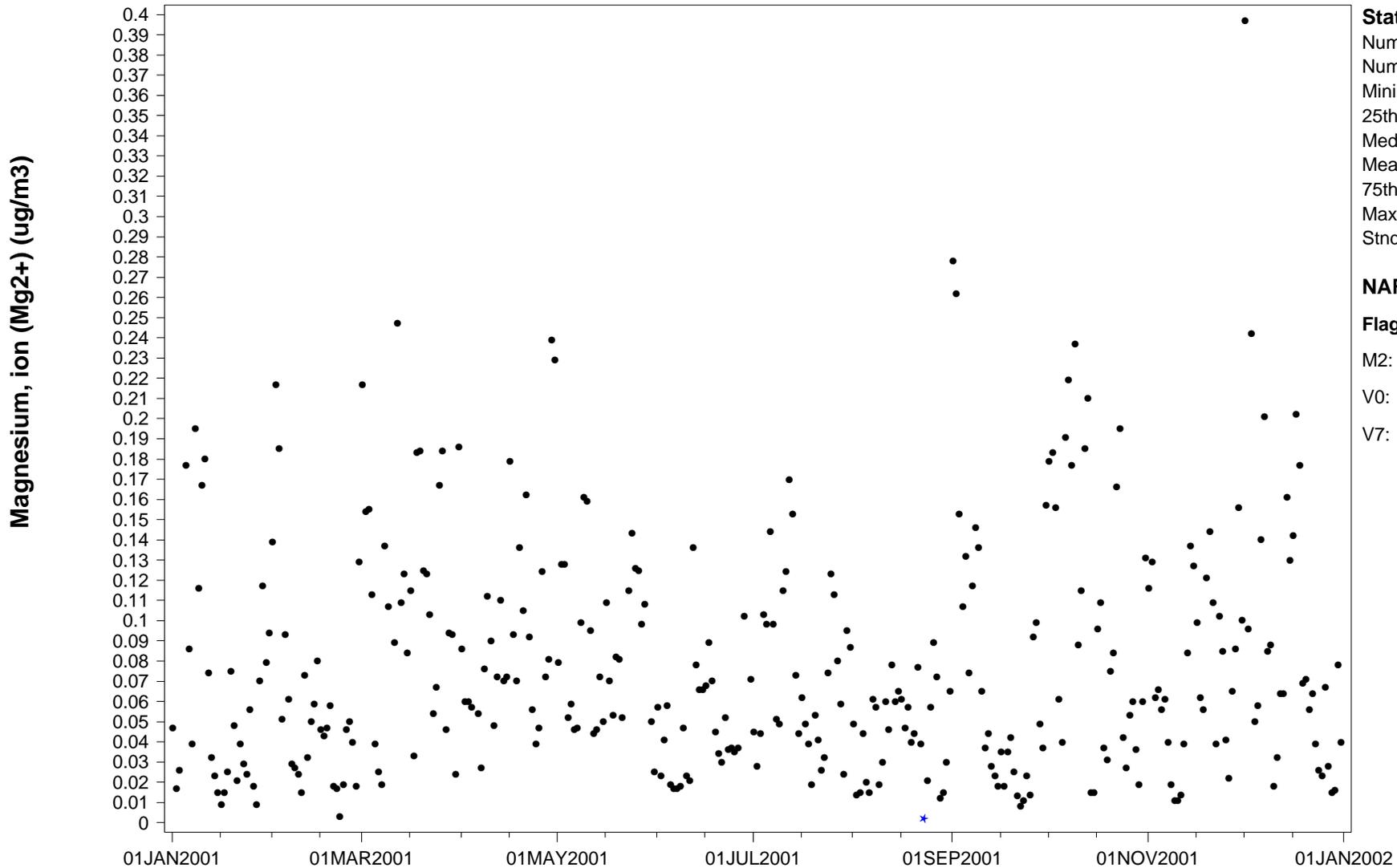
Time Zone: PST

NAtChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Magnesium, ion (Mg2+)** Common Name: **Mg++** Units: **ug/m3** Sampling interval: **24 hour**  
 Sampling frequency: **Every day** CAS ID: **C22537-22-0** Observation type: **Particles** Particle diameter--lower bound (UM): **0**  
 Particle diameter--upper bound (UM): **Undetermined** Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon**  
 Inlet type: **None--open-face filter** Laboratory analytical method: **AAS** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**

Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.002**  
 25th Percentile: **0.037**  
 Median: **0.0615**  
 Mean: **0.078**  
 75th Percentile: **0.109**  
 Maximum: **0.397**  
 Stnd Dev.: **0.057**

**NARSTO Flags**

**Flag Symbol Count**

M2:	<b>7</b>
V0:	<b>● 357</b>
V7:	<b>★ 1</b>

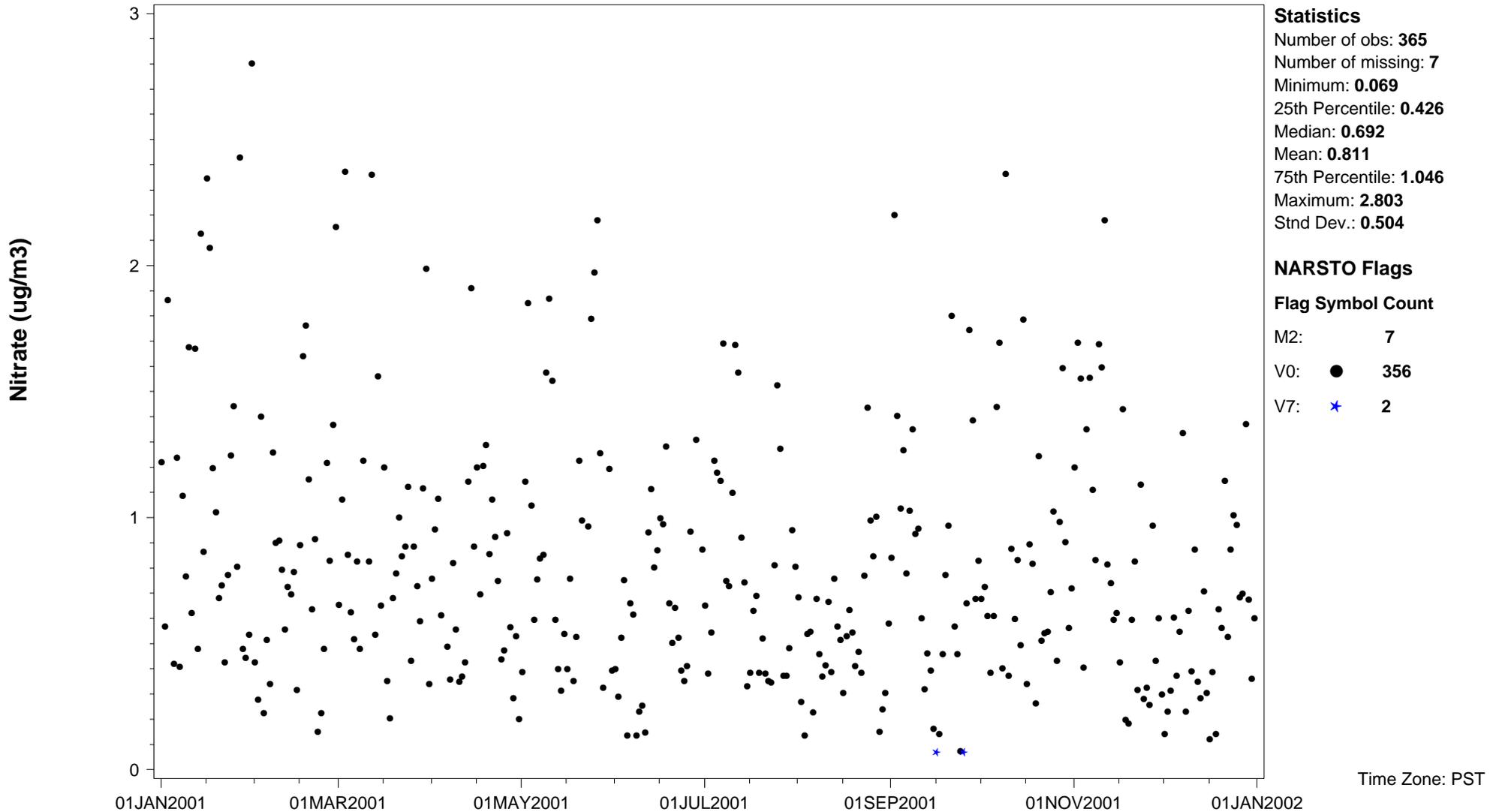
Time Zone: PST

### NATChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Nitrate** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day** CAS ID: **C14797-55-8**  
 Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**

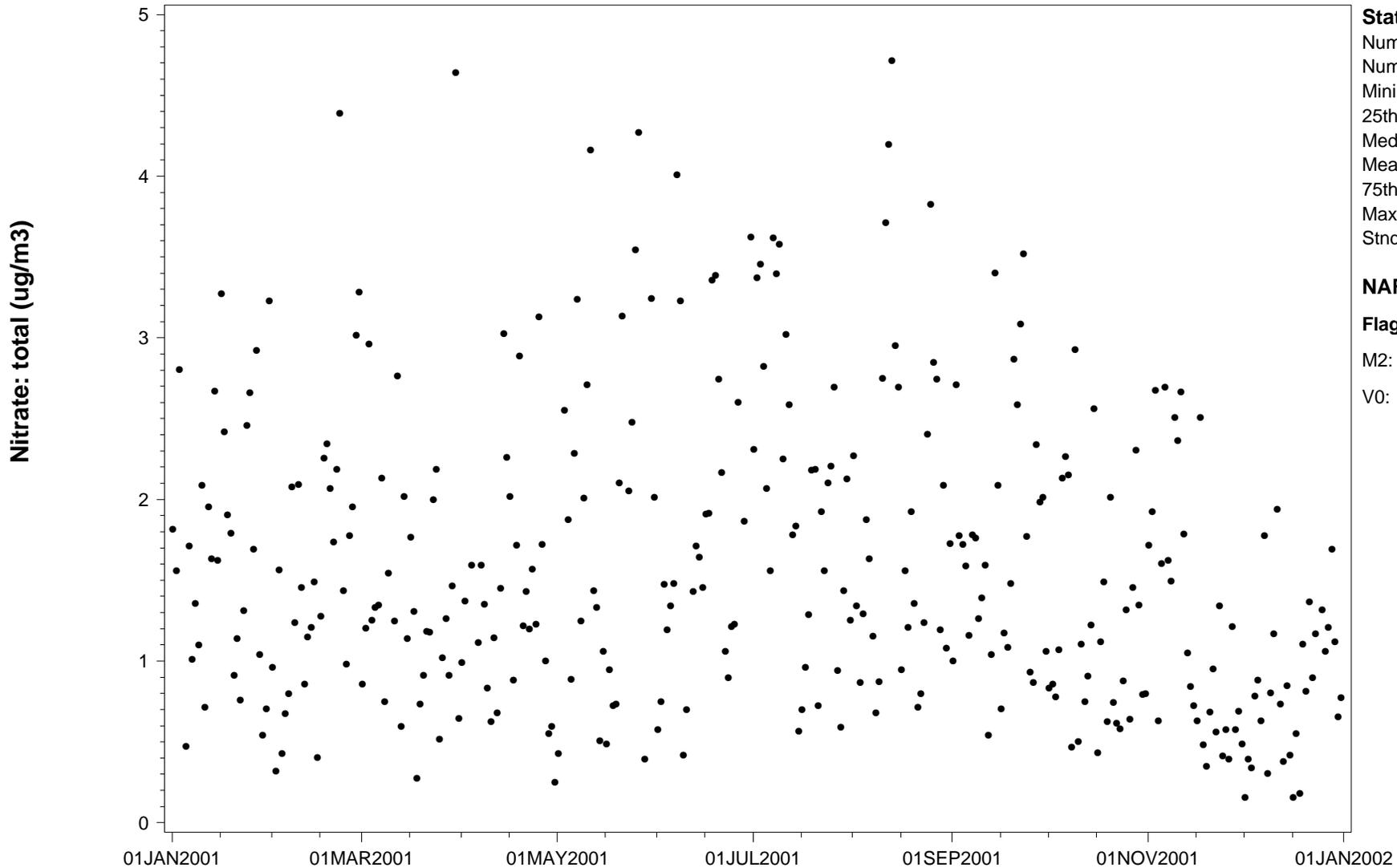


NAtChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Nitrate: total** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day**  
 Observation type: **Particles+gas** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon+nylon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water+base extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**  
 Number of obs: **365**  
 Number of missing: **12**  
 Minimum: **0.157**  
 25th Percentile: **0.868**  
 Median: **1.351**  
 Mean: **1.581**  
 75th Percentile: **2.093**  
 Maximum: **4.716**  
 Std Dev.: **0.920**

**NARSTO Flags**  
**Flag Symbol Count**  
 M2: **12**  
 V0: ● **353**

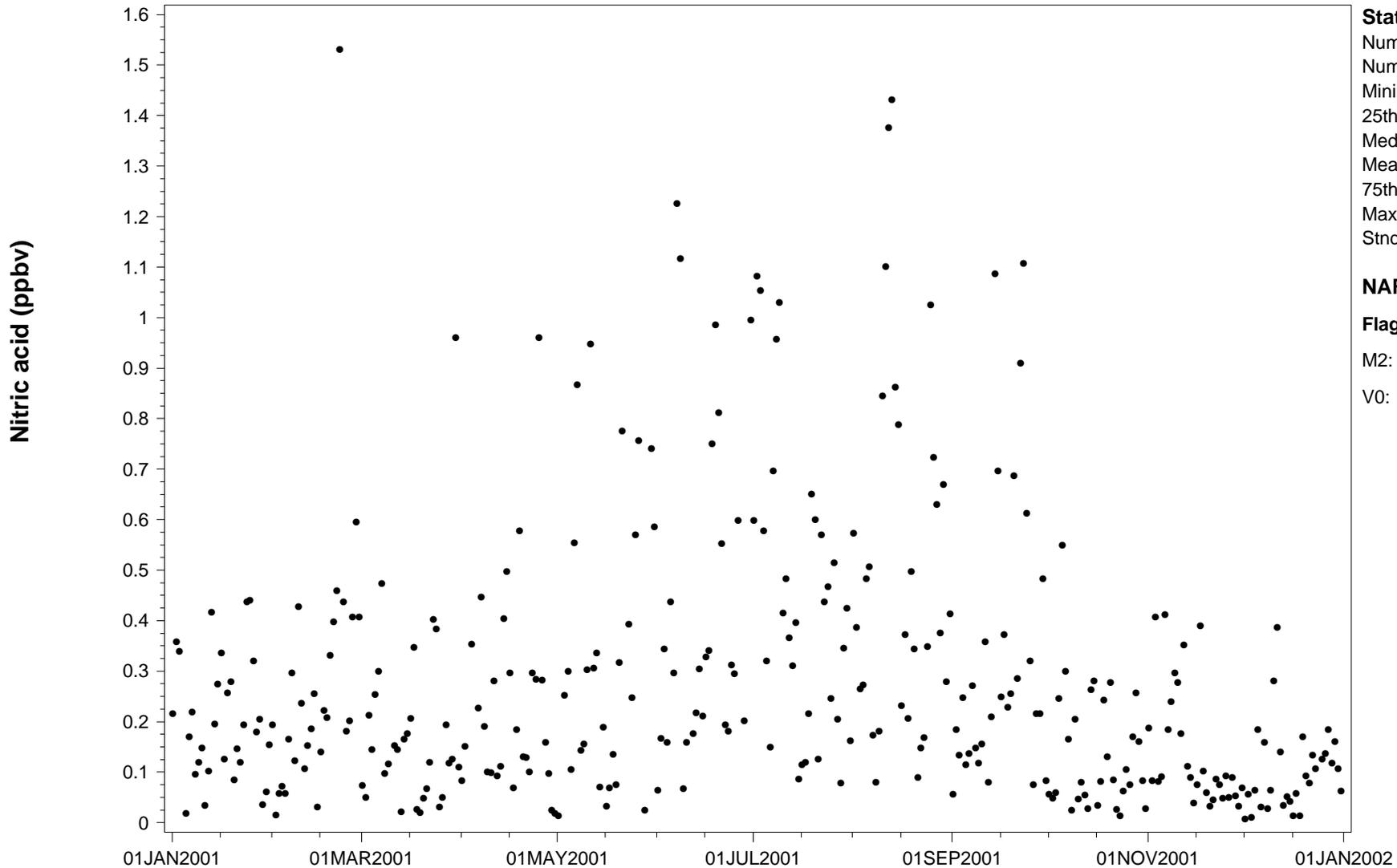
Time Zone: PST

NATChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Nitric acid** Units: **ppbv** Sampling interval: **24 hour** Sampling frequency: **Every day** CAS ID: **C7697-37-2**  
 Observation type: **Gas** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Nylon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Base extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**

Number of obs: **365**  
 Number of missing: **12**  
 Minimum: **0.007**  
 25th Percentile: **0.092**  
 Median: **0.189**  
 Mean: **0.279**  
 75th Percentile: **0.358**  
 Maximum: **1.531**  
 Stnd Dev.: **0.270**

**NARSTO Flags**

**Flag Symbol Count**

M2: **12**  
 V0: ● **353**

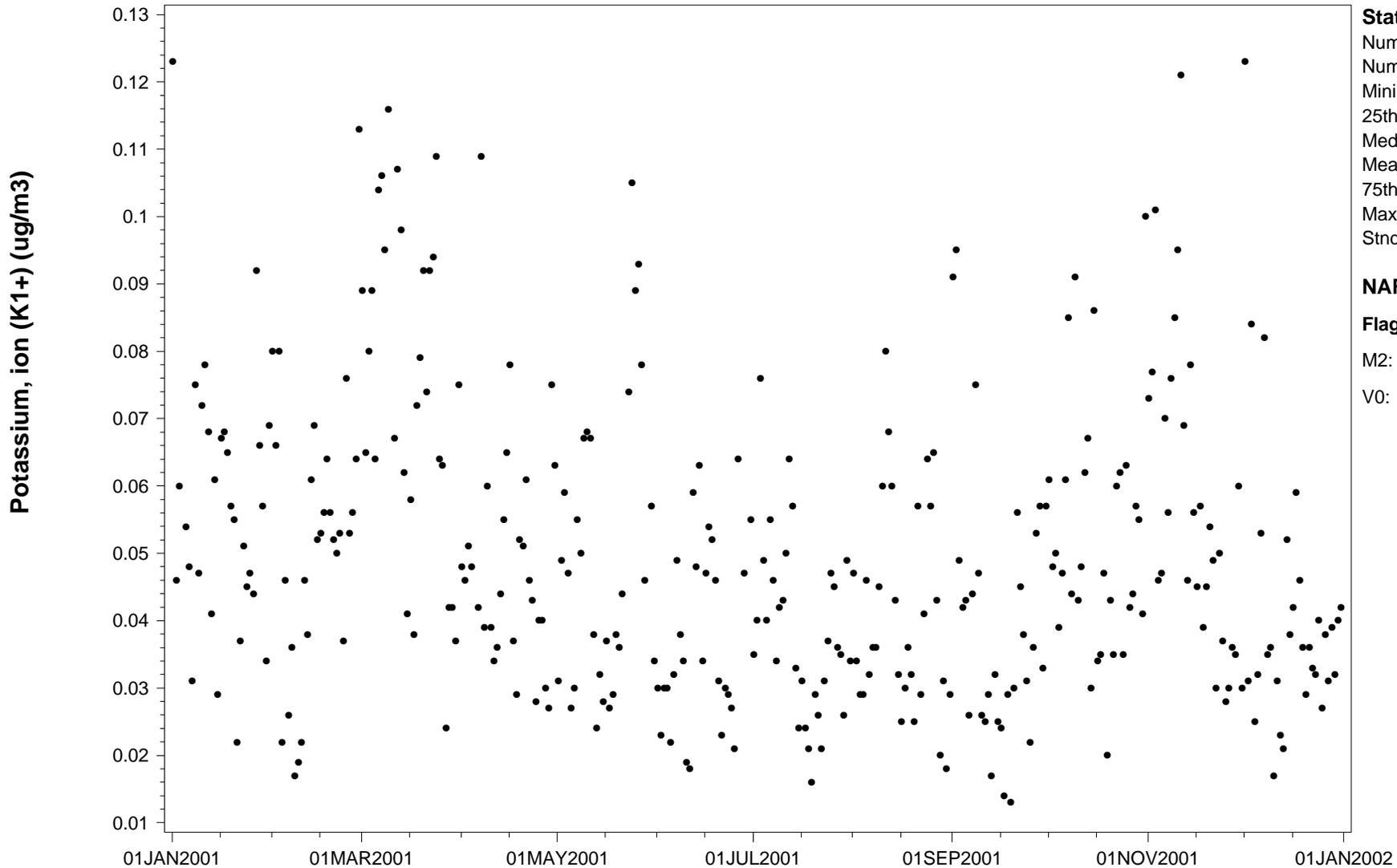
Time Zone: PST

NAtChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Potassium, ion (K1+)** Common Name: **K+** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day**  
 CAS ID: **C24203-36-9** Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**  
 Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.013**  
 25th Percentile: **0.032**  
 Median: **0.046**  
 Mean: **0.049**  
 75th Percentile: **0.061**  
 Maximum: **0.123**  
 Stnd Dev.: **0.022**

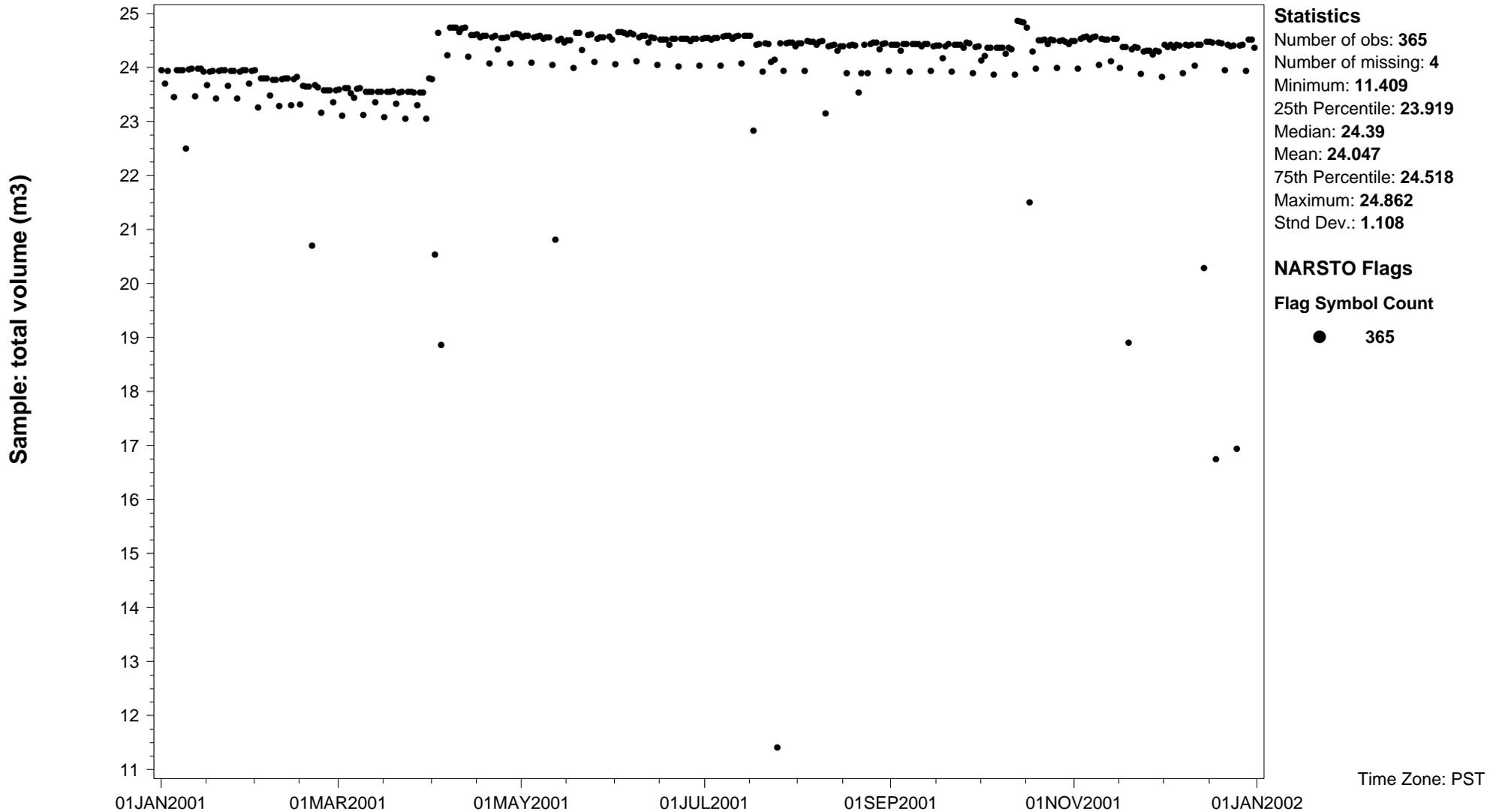
**NARSTO Flags**  
**Flag Symbol Count**  
 M2: **7**  
 V0: ● **358**

Time Zone: PST

# NAtChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Sample: total volume** Units: **m3** Sampling interval: **24 hour** Sampling frequency: **Every day**  
Observation type: **Supplementary data** Field sampling or measurement principle: **Mass flow controller**  
Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
Instrument name and model number: **Hastings Mass Flow Controller Model HFC 203** Measurement principal investigator: **Dave MacTavish**  
Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**

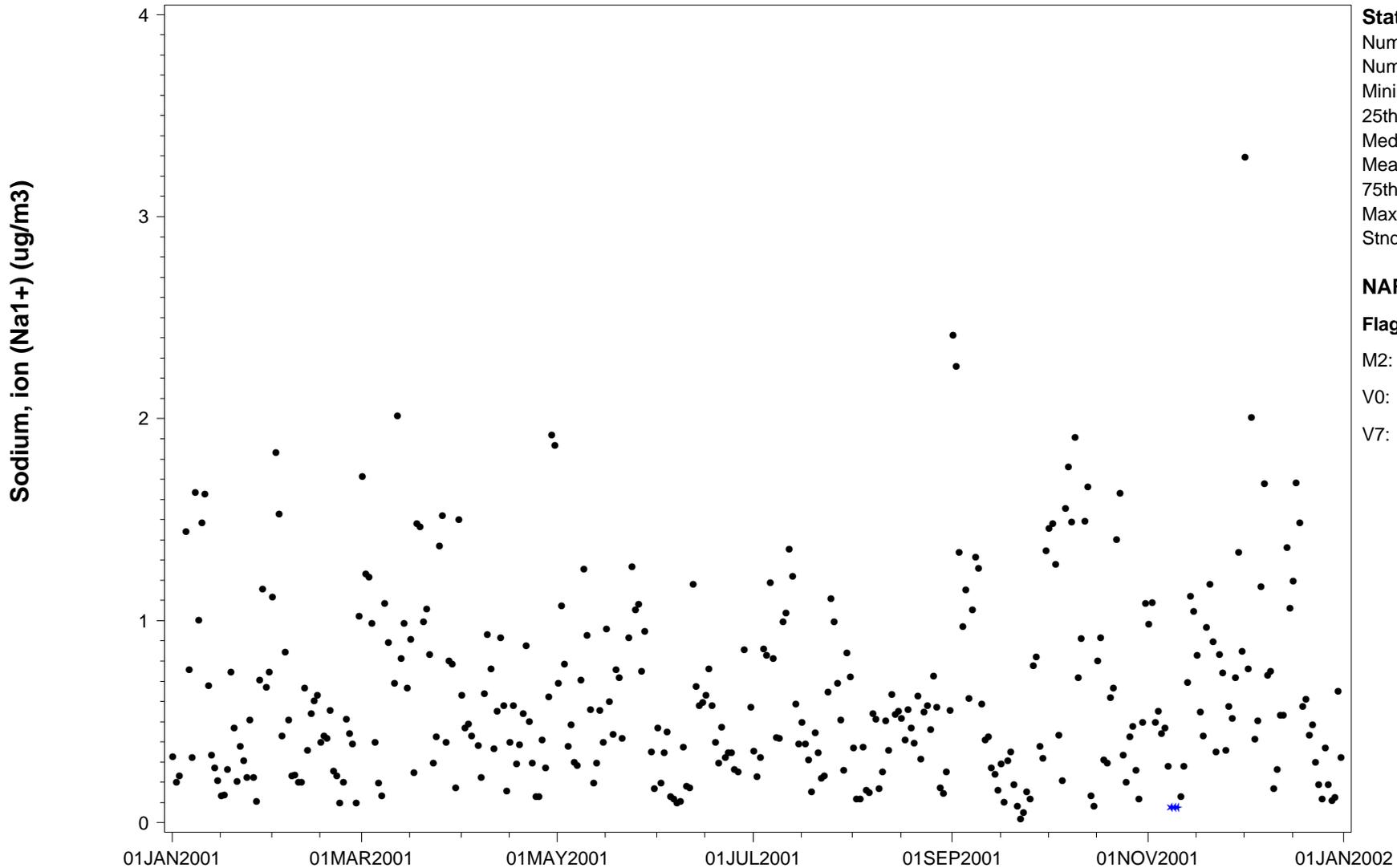


NATchem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Sodium, ion (Na1+)** Common Name: **Na+** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day**  
 CAS ID: **C17341-25-2** Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**  
 Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.019**  
 25th Percentile: **0.293**  
 Median: **0.5105**  
 Mean: **0.639**  
 75th Percentile: **0.858**  
 Maximum: **3.292**  
 Std Dev.: **0.472**

**NARSTO Flags**  
**Flag Symbol Count**  
 M2: **7**  
 V0: ● **355**  
 V7: ★ **3**

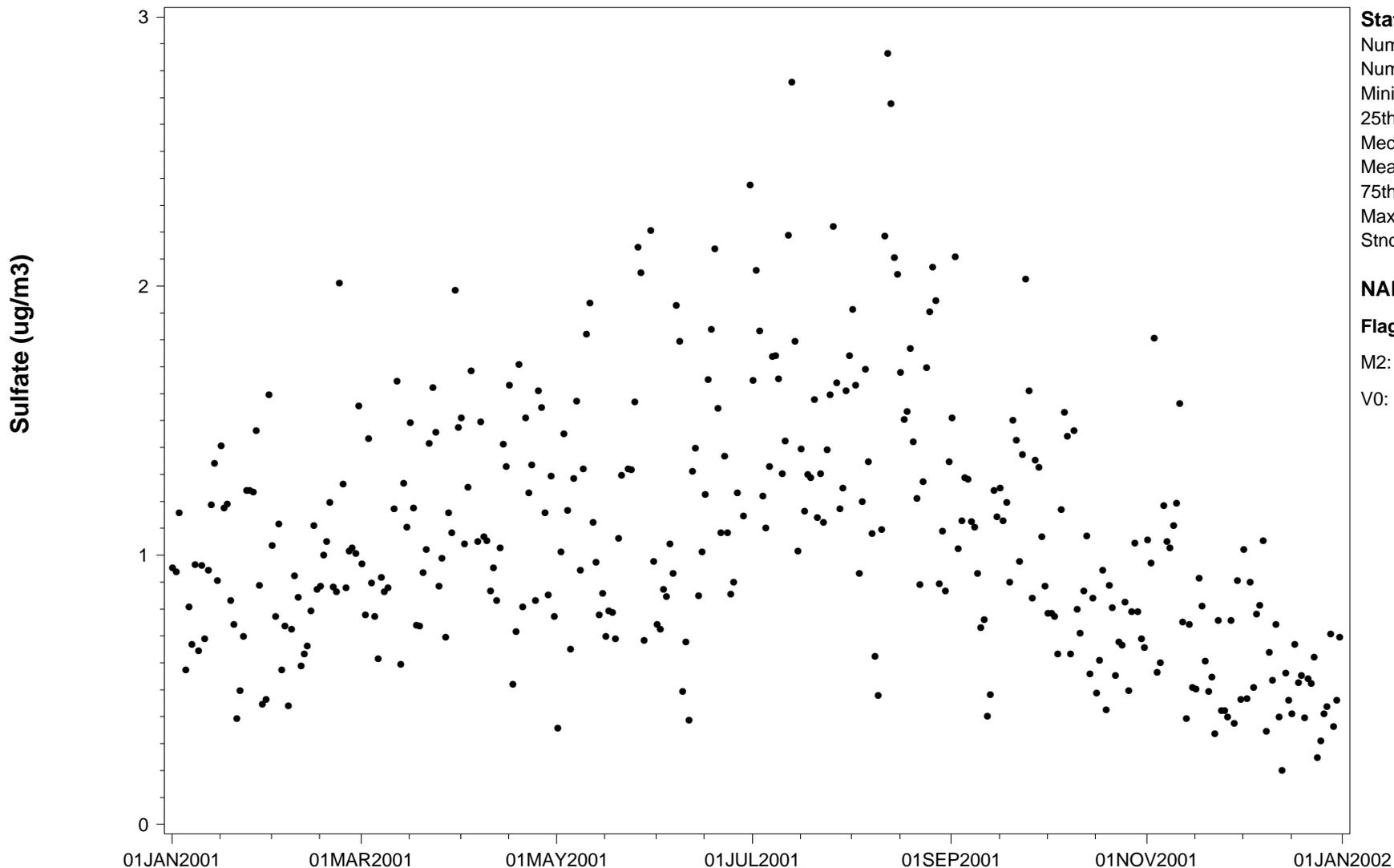
Time Zone: PST

NATChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Sulfate** Units: **ug/m3** Sampling interval: **24 hour** Sampling frequency: **Every day** CAS ID: **C14808-79-8**  
 Observation type: **Particles** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Teflon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Water extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**

Number of obs: **365**  
 Number of missing: **7**  
 Minimum: **0.201**  
 25th Percentile: **0.742**  
 Median: **1.018**  
 Mean: **1.077**  
 75th Percentile: **1.34**  
 Maximum: **2.864**  
 Std Dev.: **0.470**

**NARSTO Flags**

**Flag Symbol Count**

M2: **7**  
 V0: ● **358**

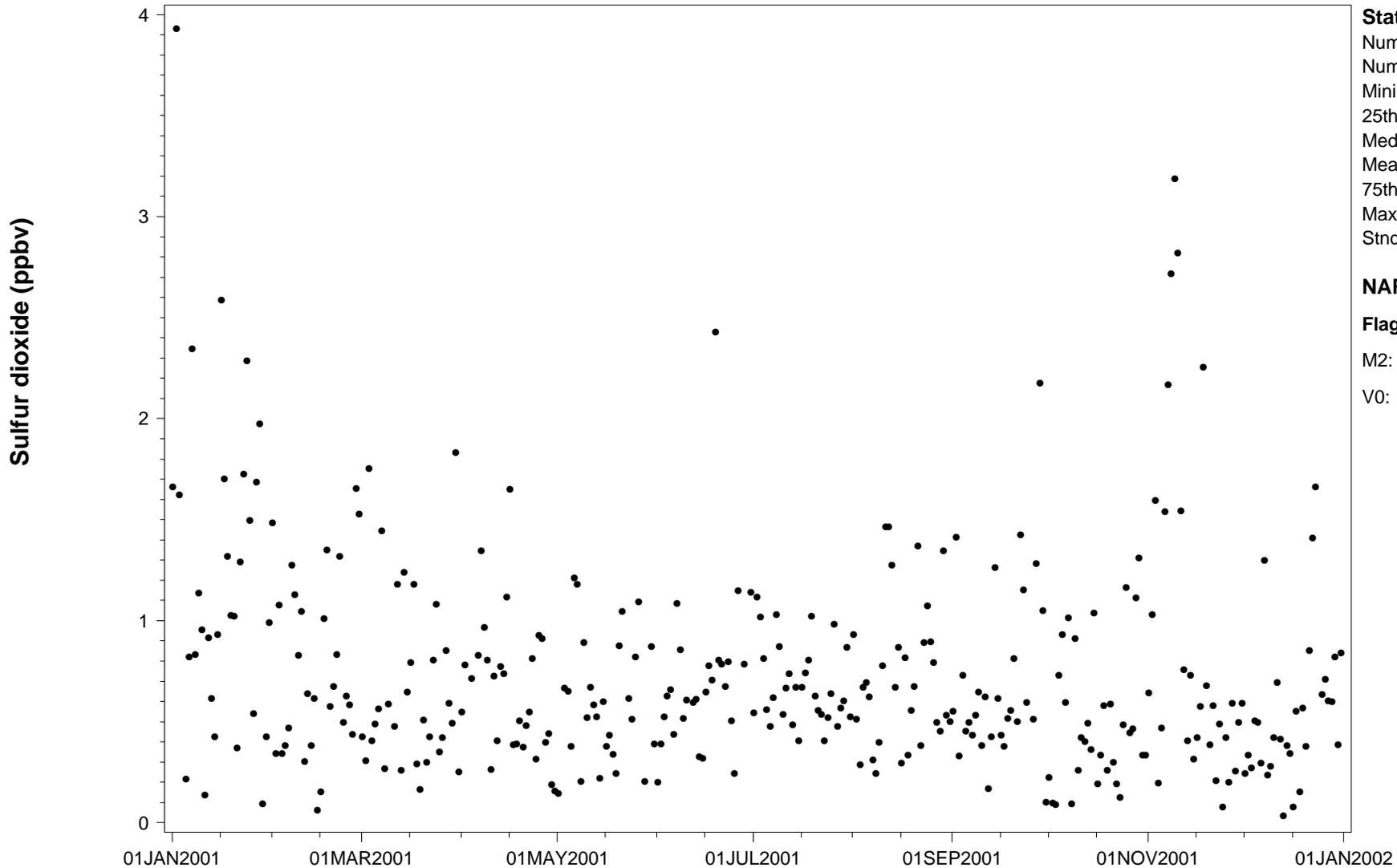
Time Zone: PST

NATChem Time Series Plot

22SEP2004

Site ID: **CAPMCABC1SAT** Variable name: **Sulfur dioxide** Units: **ppbv** Sampling interval: **24 hour** Sampling frequency: **Every day** CAS ID: **C7446-09-5**  
 Observation type: **Gas** Particle diameter--lower bound (UM): **0** Particle diameter--upper bound (UM): **Undetermined**  
 Field sampling or measurement principle: **Filter pack--multiple filters** Medium: **Cellulose+nylon** Inlet type: **None--open-face filter**  
 Laboratory analytical method: **IC** Sample preparation: **Base extraction** Blank Correction: **Blank corrected**  
 Volume standardization: **0 deg. C; 1 atmosphere** Sampling Height above ground (m): **10**  
 Instrument name and model number: **MSC Sequential Filter Pack** Measurement principal investigator: **Dave MacTavish**  
 Detection Limit: **Varies--see Detection lim**

Site Name: **Saturna, British Columbia** Latitude: **48.7833 deg.** Longitude: **-123.1333 deg.** Start Date: **2001-06-01**



**Statistics**  
 Number of obs: **365**  
 Number of missing: **13**  
 Minimum: **0.036**  
 25th Percentile: **0.4025**  
 Median: **0.593**  
 Mean: **0.733**  
 75th Percentile: **0.91**  
 Maximum: **3.933**  
 Std Dev.: **0.519**

**NARSTO Flags**  
**Flag Symbol Count**  
 M2: **13**  
 V0: ● **352**